State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

May 14, 2001

Joseph L. Suchecki
Director, Government Relations
Engine Manufacturers Association
Two North LaSalle Street
Chicago, Illinois 60602

Re: Diesel Exhaust Particulates and Ch. NR 445, Wis. Adm. Code

Dear Mr. Suchecki:

I am writing in response to your letter of February 28th regarding diesel exhaust particulates and Ch. NR 445, Wis. Adm. Code. As you know, diesel exhaust particulate has been identified as a probable carcinogen by the International Agency for Research on Cancer and as reasonably anticipated to be a human carcinogen by the National Toxicology Program. Substances classified as carcinogens by these two agencies are typically presumed to be carcinogens by the Department of Natural Resources and by the Wisconsin Division of Health, our advisor on health-related issues.

Under NR 445, the emission standard for substances classified as probable carcinogens is Best Available Control Technology or BACT. Currently, the combustion of fossil fuels, including diesel fuel, is exempt from NR 445 requirements. We analyzed the appropriateness of retaining the exemption for coal combustion and concluded that the exemption was appropriate. Coal combustion sources, principally utility and industrial boilers, are already highly controlled through other air regulations and it is unlikely that a BACT (or a Lowest Achievable Emission Rate (LAER)) analysis would result in additional control requirements for coal combustion emissions.

We also reviewed some 200 DNR air permits for compressed-ignition internal combustion (CIIC) engines, the principal emission source of diesel exhaust particulates, and found that the permits do not require emission controls. There are emission reduction options available and, for most of these sources, a BACT analysis would result in emission control requirements.

Given this background, we believe that the fossil fuel exemption should be modified so that the combustion of fuel oil in CIIC engines would no longer be exempt from NR 445 requirements. The rationale for our conclusion is that: (1) diesel exhaust particulates have been identified as a probable carcinogen, (2) the NR 445 standard for probable carcinogens is BACT, (3) other air regulations do not require these sources to install emission reduction controls; and (4) as a result, these engines are being permitted without control requirements.

In conjunction with this proposal, we are also proposing to establish a "presumptive BACT" standard for existing CIIC engines. Typically, a case-by-case BACT analysis is performed for each emission source to determine the appropriate control requirements for that source. As part of our analysis of diesel emissions from stationary sources, we examined alternative regulatory approaches to case-by-case BACT

determinations. We concluded that a performance-based standard would be a more appropriate standard for existing uncontrolled sources of diesel exhaust particulates since the emission sources are very similar and case-by-case BACT determinations would likely result in very similar emission reduction strategies. This approach has the advantage of consistent requirements across a source category, reduced review time and costs for sources and the department, and certainty in regard to regulations for affected sources. There is precedent for a performance-based standard approach in NR 445. Gasoline dispensing facilities and municipal solid or infectious waste incinerators are two examples.

The performance-based standard that we are developing would apply to the combustion of fuel oil in stationary and portable CIIC engines. We are still in the process of developing the specifics of the standard, but are considering a standard that would be based on annual fuel usage (gallons/year) and stack height, and possibly other variables. CIIC engines above a combined fuel use/stack height level would be required to use ultra-low sulfur fuel oil and either restrict their fuel usage or install a particulate emission control device. The rule would allow for time extensions in the event that ultra-low sulfur fuels were not available. New or modified sources would be subject to BACT requirements. This would allow the department to consider new engine designs and other advances in control devices and fuels over time.

With a performance-based standard, the NR 445 threshold levels for the carcinogenic effects from diesel exhaust particulates would be based on the combination of stack height and annual fuel usage rather than on risk levels. Therefore, at this time we do not intend to set risk-based threshold levels for diesel exhaust particulate. While we have looked at a range of unit risk factors and found that many of the permitted CIIC engines have allowable emission levels that pose a potential cancer risk greater than 1 in 100,000, this analysis is not the basis for our proposal to modify the current NR 445 exemption. Given the approach we are taking, we believe further debate about potential cancer risk levels associated with diesel exhaust particulates is counterproductive. Hopefully, the NR 445 TAG will also agree with that perspective so that we can focus our efforts on developing a performance-based standard.

Thank you for considering our views on this important topic. If you would like to discuss this letter further, please contact me at (608) 266-0603.

Sincerely,

Lloyd L. Eagan
Director, Bureau of Air Management

Cc: NR 445 TAG Members
Tom Sieger, Division of Public Health, DHFS
Darrell Bazzell – AD/5
Jay Hochmuth – AD/5
Caroline Garber – AM/7